QuickTime for the Web

Session 712

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Introduction

- Using QuickTime over the Internet
- Putting QuickTime content on your website
  - Mostly HTML
  - Some movie tricks
  - A little XML
  - A Bit of JavaScript

What You'll Learn

How to

- Put QuickTime movies in a web page
- Launch QuickTime player from a web page
- Launch full-screen movies
- Play other media (.mp3, etc) using QuickTime
- Work with MPEG-4 in QuickTime
- Embed live and pre-recorded streams in a web page
- Decide when to stream and when to fast-start
- Add media skins and chapter lists to streams
- Script QuickTime using JavaScript

Putting QuickTime in a Web Page

- How browsers choose a player or plug-in for multimedia
- How to make a browser choose QuickTime

How Browsers Select a Player

Three HTML tags:

- A HREF
- EMBED
- OBJECT

How Browsers Select a Player

A HREF

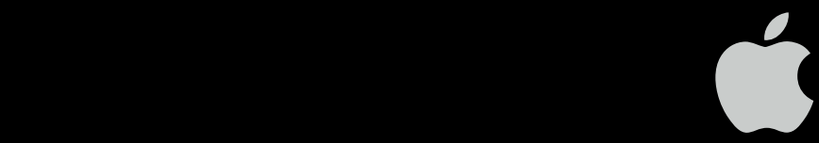
Not recommended

Lets you specify URL (file name), not file type

```
<A HREF= “MyMovie.mov”> Play Movie </A>
```

Browser gets file **type** from Web server, or table
(both methods use file extension)

Examples:
.jpg = image/jpeg
.pdf = application/pdf
.mov = video/quicktime



How Browsers Select a Player

A HREF

Not recommended

If extension wrong, or not in table, shows as text

If extension is in table, results vary:

- Open in empty window using plug-in
- Open in Player app (download and save)
- Download, then open or call player app
- Download and Save (don’t play)

Q

How Browsers Select a Player

A HREF

Not recommended

If extension not in table, shows as text
If extension in table, results still vary

If QuickTime not installed, bad things happen:
- Shows broken puzzle piece
- Complains, may offer to go for help
- Gives it the old college try

Q

How Browsers Select a Player

EMBED

Recommended

Lets you specify URL, file type, Plug-in URL

```
<EMBED SRC= “MyMovie.mov” TYPE= “video/quicktime”
       PLUGINSPAGE= “www.apple.com/quicktime/download/”
 HEIGHT= “yy” WIDTH= “xx” />
```

Browser gets file type from Web server or HTML

If plug-in not installed, opens download URL

If plug-in installed, opens file in current page Q

How Browsers Select a Player

- A brief history of plug-ins
  - Invented by Netscape
  - One new file type, one new plug-in
  - If multiple plug-ins register (.mp3, .smil), who gets it?
    - Netscape: First one to register
    - Explorer: Most recently registered
    - MIME-type wars
- The answer
  - Use a MIME type only QuickTime registers for

How Browsers Select a Player

Use a file/MIME type only QuickTime registers for:

.mov (video/quicktime)

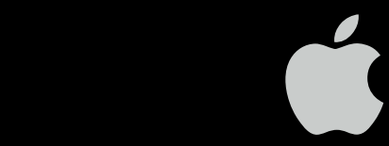
past problems, especially with IE/Win, mostly solved

.qtif (image/quicktime), .pntg (image/x-macpaint)

need to use QTSRC parameter for file you want to play

```
<EMBED SRC = “Small.qtif” TYPE= “image/x-quicktime”
       QTSRC = “MyMovie.mov”
       PLUGINSPAGE= “www.apple.com/quicktime/download/”
       HEIGHT= “yy” WIDTH= “xx” />
```

Q



How Browsers Select a Player

OBJECT

Recommended

Lets you specify ActiveX ID and ActiveX URL

```
<OBJECT WIDTH="xx" HEIGHT="yy"
CLASSID="clsid:02BF25D5-8C17-4B23-BC80-D3488ABDDC6B"
CODEBASE="http://www.apple.com/qtactivex/qtplugin.cab">

<PARAM NAME="src" VALUE="MyMovie.mov">
</OBJECT>
```

Browser gets file type from server or HTML
If ActiveX not installed, opens download URL
If ActiveX installed, opens file in current page

One problem: Works only in IE/Win

Making Browsers Choose QuickTime

OBJECT + EMBED

Recommended

Lets you specify file type, ActiveX, plug-in URL

```
<OBJECT WIDTH="xx" HEIGHT="yy"
CLASSID="clsid:02BF25D5-8C17-4B23-BC80-D3488ABDDC6B"
CODEBASE="http://www.apple.com/qtactivex/qtplugin.cab">
<PARAM NAME="src" VALUE="MyMovie.mov">

<EMBED SRC= “Small.qtif” TYPE= “image/quicktime”
       QTSRC= “MyMovie.mov”
       PLUGINSPAGE= “www.apple.com/quicktime/download/”
       HEIGHT= “yy” WIDTH= “xx” />

</OBJECT>
```

Q

Works for any browser, OS—QuickTime installed or not

Embedding QuickTime in a Web Page

Not recommended

EMBED

Recommended
(especially with QTSRC)

OBJECT + EMBED

Highly Recommended

Questions so far?

Fun with the QuickTime Plug-in

- Once the QuickTime plug-in or ActiveX is open, you can pass parameters to QuickTime from your HTML

AllowEmbedTagOverRides	AutoHREF	AutoPlay	BGColor
Controller	Correction	DontFlattenWhenSaving	EnableJavaScript
EndTime	GoTo	HotSpot	HREF
KioskMode	Loop	MovieID	MovieName
Node	Pan, Tilt, Fov	PlayEveryFrame	QTNext
QTSrcChokeSpeed	QTSrcDontUse -Browser	SaveEmbedTags	Scale
StartTime	Target	URLSubstitute	Volume

Creating a Poster Movie

- A poster movie is a small image or movie
- Clicking the poster movie loads a URL that can be
  - Another movie that replaces the poster
  - A Web page
  - A JavaScript function
  - A movie that loads in the QuickTime Player

```
<EMBED SRC = “Poster.qtif” TYPE= “image/x-quicktime”
       CONTROLLER= “False”
       HREF = “MyMovie.mov” TARGET= “myself”
       PLUGINSPAGE= “www.apple.com/quicktime/download/”
       HEIGHT= “yy” WIDTH= “xx” />                    Q
```

Launching Full-Screen Movies

- Use a poster movie to launch QuickTime player
- The movie can be set to play in full screen mode
  - Using AppleScript
  - Using Plugin Helper (QuickTime tools and tips)
  - Using a wired sprite (homepage.mac.com/QT4Web)
  - Using an XML text movie

```
<EMBED SRC = “Poster.qtif” TYPE= “image/x-quicktime”
       CONTROLLER= “False”
       HREF = “MyMovie.mov” TARGET = “QuickTimePlayer”
       HEIGHT= “yy” WIDTH= “xx” />
```

Q

Poster Movies and Full-Screen Movies

Poster Movies

- Controller=False
- HREF=URL

Poster Replaced by Movie

- Target=Myself

Poster Launches QuickTime Player

- Target=QuickTimePlayer

Full-Screen Movie

- Full-Screen mode embedded in movie
- Full-Screen set using XML

Playing Other Media in QuickTime

- You can use QTSRC to specify anything QuickTime can play
  - .mp3 audio
  - .mp4 audio and video
  - Flash animation
  - SMIL presentations
  - RTSP streams
  - Over 200 different media and file types

```
<EMBED SRC = “Small.qtif” TYPE= “image/x-quicktime”
       QTSRC = “AnythingQTCanPlay.xxx”
       PLUGINSPAGE= “www.apple.com/quicktime/download/”
       HEIGHT= “yy” WIDTH= “xx” />
```

MPEG-4 and QuickTime for the Web

- Use MPEG-4 video or AAC audio in QuickTime movies
  - Import, export, edit, MPEG-4 audio and video
  - Mix MPEG-4 media with other QuickTime media
  - Uses the .mov (video/quicktime) file format
- Create, play, and stream native .mp4 files
  - Interoperable with other ISO streams, files, and players
  - Hint .mp4 files for streaming
  - Uses the .mp4 (video/mpeg-4) file format

```
<EMBED SRC = “Small.qtif” TYPE= “image/x-quicktime”
       QTSRC = “MyMovie.mp4”
       HEIGHT= “yy” WIDTH= “xx” />
```

MPEG-4/Playing Other Media Types

SRC and QTSRC

SRC=QuickTime file type
QTSRC=Any file type QuickTime can play

MPEG-4

MPEG-4 video compression in a movie
AAC audio compression in a movie

.mp4

Export movies to .mp4
Use SRC and QTSRC to force QuickTime playback

.mov is not .mp4

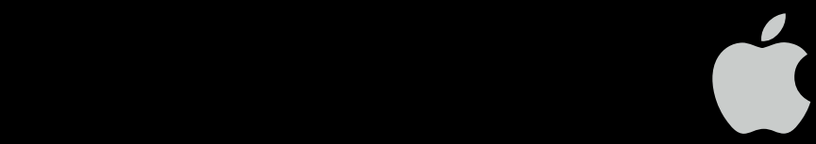
Never swap file extension

Fast-Start and Streaming

- Streaming Movies
  - Use real-time protocols (RTSP, RTP)
  - A one-minute movie is transmitted in 1 minute
- Pro
  - Can carry live audio/video
  - Recorded stream supports random access
  - Supports multicast over LAN
- Con
  - Must fit within available bandwidth
  - Lost data is not retransmitted
  - Limited to audio, video, text, URL events

Fast-Start and Streaming

- Fast-Start Movies
  - Use common Web protocols (HTTP, FTP)
  - Data transfer time is movie size / bandwidth
- Pro
  - Quality not limited by available bandwidth
  - Movie transfer is pristine; no data loss
  - Unlimited media types: Flash, VR, sprites, 3D, Interactivity
- Con
  - Movie plays from start to end; can’t skip ahead
  - Can’t carry live events
  - Perceived as easier to copy



Embedding Streams in a Web Page

- Another player may be registered for RTSP URLs
- Three useful ways to open streams in QuickTime
  - Use QTSRC and QTSRCDONTUSEBROWSER
  - Use a text movie
  - Use a reference movie

QTSRC and QTSrcDontUseBrowser

```
<EMBED SRC = “Small.qtif” TYPE= “image/x-quicktime”
       QTSRC = “MyMovie.mp4” QTSRCDONTUSEBROWSER
       HEIGHT= “yy” WIDTH= “xx” />
```

Q

Embedding Streams in a Web Page

- Using a text movie
- Two kinds of text movies: RTSPtext or XML
  - RTSPtext
    - Create a one-line text file—"RTSPtext" + URL:

```
RTSPtextRTSP://server.domain/path/StreamName
```

    - Save with the .mov file extension (Stream.mov)
    - Embed as you would any QuickTime Movie:

```
<EMBED SRC = “Small.qtif” TYPE= “image/x-quicktime”
       QTSRC = “Stream.mov”
       HEIGHT= “yy” WIDTH= “xx” />
```

Embedding Streams in a Web Page

- Using a text movie
- Two kinds of text movies: RTSPtext or XML
  - XML
    - Create a three-line text file:

```
<?xml version="1.0"?>
<?quicktime type="application/x-quicktime-media-link"?>
<embed src="rtsp://www.streamer.com/Stream.mov" />
```

    - Save with the .mov file extension (Stream.mov)
    - Embed as you would any QuickTime Movie

```
<EMBED SRC = “Small.qtif” TYPE= “image/x-quicktime”
       QTSRC = “Stream.mov”
       HEIGHT= “yy” WIDTH= “xx” />
```

Embedding Streams in a Web Page

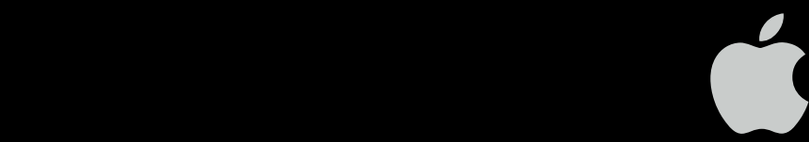
- Using a reference movie
  - Open the stream in QuickTime Player (Open URL)
  - Save (self-contained, .mov file extension)
  - Embed as you would any QuickTime movie:

```
<EMBED SRC = “Small.qtif” TYPE= “image/x-quicktime”
       QTSRC = “MyMovie.mp4” QTSRCDONTUSEBROWSER
       HEIGHT= “yy” WIDTH= “xx” />
```

- Bonus: you can now edit the movie
  - Add non-streaming media such as chapter list, sprites, Flash, VR, still images, media skins

Adding Media to a Streaming Movie

- Pre-recorded streams
  - Open the stream in QuickTime Player (Open URL)
  - Save (self-contained)
  - Open other media, copy, add or add-scaled
- Live streams
  - Open stream in QuickTime Player, save (self-contained)
  - Disable streaming track(!)
  - Open other media, add scaled(!)
  - Enable streaming track
  - Save as (self-contained)



Streaming

- Streaming vs fast-start
- Embedding streams in a Web page
  - SRC and QTSRC
  - Text movie (RTSPtext, XML)
  - Reference movie
- Adding media to a reference movie
  - Pre-recorded stream
  - Live stream

Questions?

QuickTime and JavaScript

- You can use JavaScript to detect QuickTime
- You can call JavaScript functions in a QuickTime URL
- JavaScript can control QuickTime Plug-in and ActiveX
  - Mozilla and compatible—XPCOM (Mac and Windows)
  - Netscape and compatible—LiveScript (Mac and Windows)
  - Explorer (Windows only)—COM
  - Safari?

Wrap Up

Roadmap—Wednesday

	Russian Hill	Pacific Heights	Haight/ Ashbury	SOMA
9:00	711 Audio and QuickTime		712 QuickTime for the Web	713 Introduction to QuickTime Interactivity
10:30			714 Large-Scale Webcasting: Macworld Keynote Case Study	715 QuickTime Interactivity Tools
12:00				
2:00	716 Advanced QuickTime Programming Techniques		717 3GP: Myth Versus Reality	718 AppleScript and QuickTime
3:30			719 Administering QuickTime Streaming Server	720 Content Creation for Mobile Phones: Top 10 Success Factors
5:00			721 WiFi and 3G: Let the Games Begin	722 Advanced QuickTime Interactivity

Roadmap—Thursday

	The Mission	Haight/ Ashbury	SOMA
9:00		723 The Real Story About MPEG-4 Visual Licensing	724 What's New With QuickTime VR?
10:30		725 QuickTime and Enhanced CDs	726 Cutting-Edge Projects Using QuickTime VR
12:00			
2:00	727 QuickTime Streaming Server Programming	728 Produce a Listening Party With QuickTime	729 Industrial-Strength Encoding
3:30		FF011 QuickTime Feedback Forum	
5:00			

Roadmap—Friday

	Pacific Heights	The Marina
9:00		
10:30	730 QuickTime Alternative Programming Environments	
12:00		
2:00		731 Internet Application Development: The New Frontier
3:30		
5:00		

Who to Contact

Guillermo Ortiz
QuickTime Technology Manager
quicktimeman@apple.com

http://developer.apple.com/wwdc2003/urls.html

For More Information

Documentation

General Information

http://www.apple.com/quicktime

Developer Information

http://developer.apple.com/documentation

QuickTime Information

http://developer.apple.com/QuickTime

Do Not Miss!

Lab: QuickTime Content Creation

Meet with QuickTime content experts for daily content specific topics that are of special interest to you. Bring your own media and PowerBook. No appointment is needed—first-come, first-served.

Sacramento Room

Lab: QuickTime Development

Meet with Apple's QuickTime engineers. Each day will emphasize a specific QuickTime development topic. Bring your own code and PowerBook. No appointment is needed—first-come, first-served.

Sacramento Room

Lab Hours

Monday	12:00pm to 6:00pm
Tuesday	9:00am to 6:00pm
Wednesday	9:00am to 6:00pm
Thursday	9:00am to 4:30pm
Friday	9:00am to 6:00pm

Q&A

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http://developer.apple.com/wwdc2003/urls.html

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